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ABSTRACT

A study determined the interrelationships among children's storybook reading behavior and knowledge of print concepts in kindergarten and their reading ability at the end of first grade. A sample of 21 subjects, ranging in age from 5 years 10 months to 6 years 8 months, was randomly selected from the morning and afternoon kindergarten sessions at a school in a small rural community in the Pacific Northwest. Results indicated that: (1) there was a positive correlation between storybook reading behavior as measured by Sulzby's story re-enactment scale and knowledge of print concepts as measured by the Concepts of Print Test (Clay, 1972); (2) subjects' storybook reading behavior in kindergarten had a positive correlation with their reading ability at the end of first grade as measured by the Metropolitan Achievement Test; and (3) subjects' knowledge of print concepts had positive but non-significant correlation with their reading ability. Findings suggest that experiences listening to stories read and "pretend-reading" help to develop kindergarten children's concepts of reading and print which prepare them for formal reading instruction in first grade. (Contains 33 references and three tables of data. Appendixes present an abridged version of "Emergent Reading Ability Judgements for Favorite Storybooks," (Sulzby, 1983; Sulzby and Otto, 1982); four patterns of print concepts measured by the "Sand Test," (Johns, 1980); and a scoring standards checklist for the "Concepts About Print Test: Sand" (Clay, 1979). (Author/RS)

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The Relationships among Children's Storybook Reading Behavior and Knowledge about Print Concepts in Kindergarten and Their Reading Ability in First Grade

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Abstract

A study was conducted to determine the interrelationships among children's storybook reading behavior and knowledge of print concepts in kindergarten and their reading ability at the end of first grade. It was found that there was a positive correlation (r=.52) between storybook reading behavior as measured by Sulzby's (1985) story re-enactment scale and knowledge of print concepts as measured by the Concepts of Print Test (Clay, 1972). Further, it was found that subjects' storybook reading behavior in kindergarten had a positive correlation (r=.57) with their reading ability at the end of first grade as measured by the Metropolitan Achievement Test. Subjects' knowledge of print concepts had positive but non-significant correlation (r=.48) with their reading ability. These findings suggest that experiences listening to stories read and "pretend-reading" help to develop kindergarten children's concepts of reading and print which prepare them for formal reading instruction in first grade.

The Relationships between Storybook Reading Behavior
and Knowledge about Print Concepts of Kindergarten Children
and with Their Reading Ability in First Grade

Recent research efforts in the field of early reading acquisition have contributed much to the knowledge base of beginning literacy. The "reading readiness" model, which has dominated reading instruction in this century, no longer reflects what we know from the contributions of cognitive science, developmental psychology, language acquisition research, and psycholinguistics about the reading process and learning to read. The idea that children are ready to read when they have mastered a set of subskills considered necessary for success in reading and that reading and writing begin in a school-like setting are two notions inherent in the reading readiness model that are clearly challenged by this recent research. The reading readiness paradigm has been replaced by the construct, "emergent literacy", which reflects a new conceptualization of young children's literacy acquisition (Cf. Teale, 1987). Central to this emergent literacy paradigm is the notion that children's early reading and writing behaviors are not "...pre-anything, but are integral parts of a language process which is in the state of becoming" (Teale & Sulzby, 1986, p. xx). Holdaway (1979) claims that these "early literacy skills ...display all the features...of mature strategies...well beyond what could be called embryonic...(and,) if permitted to develop naturally, will lead to mature reading and writing..." (p. 76).

Looking at children's early literacy acquisition from an emergent literacy perspective relies primarily upon a consideration of the social environment, which includes adult-child interaction and adult modeling of the act of reading,

as well as the child's own independent investigations of written language (Teale & Sulzby, 1986). For most middle class children, storybooks are a part of that environment and are "entities created socially between adult and child" (Reuning & Sulzby, 1985, p. 310). Many researchers (Doake, 1985; Pappas & Brown, 1987; Sulzby, 1983, 1985a, 1985b) have found that children figure out or abstract the functions and forms of written language by participating in the social environment within which storybooks are used. Among other ways, it appears that this knowledge about written language is constructed by the child in interaction with an adult in a storybook reading setting.

What children know about written language that is demonstrated and verbalized to others is known as "metalinguistic awareness". Metalinguistic awareness includes a knowledge of the purposes and nature of written language, concepts of print and books, concepts of spoken language units, and the language of instruction. Sulzby (1985b) noted that children's metalinguistic responses, such as their comments about print and books and their reading and writing attempts, provide sources of information for researchers in trying to understand the world of literacy from a child's point of view.

Experience with written language is the most effective way to enhance children's metalinguistic awareness (Yaden, 1984). Storybook reading is clearly a part of that experience and a logical and motivating vehicle to facilitate young children's understanding of the functions and forms of print. Children's metalinguistic awareness is evidenced in their storybook "re-enactments" (Note 1), which can be described in terms of verbal and non-verbal behaviors displayed when attempting to read a story for another person (Otto, 1983). For example, several studies have found that with increasing experience with storybook reading children more closely matched speech and print and displayed awareness of word

boundaries (Clay, 1979b; Yaden, 1984). From the research it appears that the acquisition of concepts about print can be enhanced before formal instruction in school and through children's experiences listening to stories read by an adult. The relationship between children's storybook reading behavior and their concepts about print is, thus, a relevant topic for investigation. Further, from the research it appears that children's exposure to storybook reading contributes substantially to their success in beginning reading acquisition (Clark, 1976; Durkin, 1974-1975; Ehri, 1979; Evans, Taylor & Blum, 1979; Feitelson & Goldstein, 1986; Walker & Kuerbitz, 1979; Wells, 1985). Thus, the relationship between children's storybook reading behavior and concepts of print in kindergarten and their reading ability at the end of first grade is also a relevant topic of investigation.

Specifically, it is hypothesized that (1) there is a positive correlation between storybook reading behavior and conceptual knowledge of print of kindergarten children, (2) there is a positive correlation between children's storybook reading behavior at the end of kindergarten and their reading ability at the end of first grade, and (3) there is a positive correlation between children's concepts of print at the end of kindergarten and their reading ability at the end of first grade.

METHOD

Subjects

A sample of 21 subjects, ranging in age from five years ten months to six years eight months, was randomly selected from the morning and afternoon kindergarten sessions at a school in a small rural community in the Pacific Northwest. The subjects were Caucasian children with English as their first

language and were from the middle to low socioeconomic strata. The children in each kindergarten session were housed in the same self-contained classroom and taught by the same teacher using the same methods and materials.

Materials

A measure of storybook reading behavior and a measure of print concepts were selected. In addition, a familiar storybook, *The Surprise* by George Shannon (1983), was selected for the storybook re-enactments.

***Emergent Reading Ability Judgments for Favorite Storybooks* (ERAJFS).** The ERAJFS scale (Sulzby, 1983, 1985a) was used for assessing children's storybook reading behavior. It identifies three broad categories, with the second divided into two general sub-categories, which reflect the developmental sequence of emergent reading behaviors displayed by children two to six years of age with favorite storybooks. Within this classification scheme, each reading attempt is considered in light of what the child seems to be using as a source of meaning, print or picture, and whether a story is formed. The four broad categories, ordered from high to low developmentally, are:

1. Attempts governed by print
2. Attempts governed by pictures, stories formed
    a. Written language-like
    b. Oral language-like
3. Attempts governed by pictures, stories not formed.

Within each of these four categories, there are descriptions and typical examples of children's verbal and non-verbal behaviors, which explain in more detail the reading attempts. These behaviors are developmentally ordered within categories,

resulting in eleven sub-categories of specific reading behaviors. See Appendix A for an Abridged Version of the ERAJFS Scale.

***Concepts About Print Test* (CAPT).** The measure of print concepts selected was Clay's CAPT test (1972) because it is presented in storybook format and it simulates the adult-child interaction of storybook reading. This is a 24-item test of significant concepts of print found in a storybook format. Three areas of print concepts tested by the CAPT are: (1) conventions of print (e.g., print carries the message), (2) language of instruction (e.g., word, letter), and (3) punctuation marks (e.g., comma, period). See Appendix B for a brief description of the concepts tested by CAPT. The test materials consist of: (1) *Sand*, a 20-page intact picture book, which tells the story of a boy's experience with sand and water at the beach; (2) questions about the print and pictures; and (3) a Scoring Standards Checklist of the concepts tested. See Appendix C for the Scoring Standards Checklist. The child is asked to help the examiner by pointing to certain print features as the examiner reads the book to the child. The child's responses are scored on the checklist during the reading. The protocols for administering the test are found in *Early Detection of Reading Difficulties* by Marie Clay (1979a, pp. 28-29).

Procedures

The data collection for this study took place in the spring, 1988. The subjects were familiar with school routines and were accustomed to working outside the classroom with adults other than their teacher.

Storybook reading. Twice in a one-week interval, the teacher read aloud to the children *The Surprise* (Shannon, 1983) during the regular classroom storytime.

The book was not available to the children between the read-alouds nor after the second read-aloud, before the storybook re-enactments.

Assessment of storybook re-enactments. The day after the second reading, the subjects were audio-taped individually while they "read" the storybook to the examiner, one of the researchers, in a quiet setting outside of the classroom. The examiner elicited a reading attempt by asking the subject to read the story. If the subject said he/she could not read, then the examiner encouraged the subject by saying "I know you cannot really read, like grown-ups do, but pretend you can. I bet there are parts of the story you remember." Prompts, such as "What's happening on this page?", were provided only when the subject hesitated for at least a minute. Most of the prompts occurred for the subject's initial reading attempt at the beginning of the book. The storybook reading sessions for each subject were transcribed by the examiner and supplemented as necessary with notes taken during the session. See Appendix D for a sample of a reading attempt for one child.

Scoring of re-enactments. Assessment of the subjects' storybook re-enactments was independently performed by the two researchers. Using the ERAJFS scale (Appendix A) and Sulzby's discussion (1985a) of her research as a guide, the subjects' reading behaviors were categorized according to the sub-categories after the researchers listened to the audio-tapes while reading the transcriptions and referring to the storybook. Initially, the subject's reading attempts were assigned to one of eleven sub-categories. Then, for the purpose of statistical analysis, a holistic score was given each subject according to his/her assignment. In addition, eight reading behaviors, such as exact word matches and self-corrections, agreed upon beforehand by the researchers, were noted for each subject's performance to substantiate the holistic score which the

subject was given. The subjects' holistic scores obtained after assignment on the ERAJFS scale are shown in Table 1.

Insert Table 1 about here.

Because most subjects' reading behaviors fell almost entirely within the second broad category on the ERAJFS scale, Attempts which are Governed by Pictures and Stories are Formed, and did not clearly fall into a single subcategory, the researchers developed a procedure for systematic categorization. The five-step procedure that was developed for the purposes of this study was as follows:

Step 1. Reading attempts were classified according to their contextualization or decontextualization. The contextualized attempts were characterized by "oral language-like behaviors" (B2 and C on ERAJFS scale), resulting in a story dependent on the pictures in the book. The decontextualized attempts were characterized by "written language-like behaviors" (A and B1 on ERAJFS scale), resulting in a well-formed story sufficiently independent from the pictures in the book to be understood by the listener.

Step 2. Reading attempts which were classified as decontextualized were further classified according to their degree of decontextualization: completely decontextualized and partly decontextualized. To be completely decontextualized, the reading attempt had to be understood in its entirety without the aid of the pictures (A, B1a, and B1b on ERAJFS scale). In the partly decontextualized attempts, some pictures were necessary to understand the story the subject was re-enacting (B1c on ERAJFS scale).

Step 3. Reading attempts thus classified as contextualized, partly decontextualized, and completely decontextualized were assigned to one of the eleven sub-categories on the ERAJFS scale. For statistical purposes, each of the sub-categories on the ERAJFS scale were given a holistic raw score, 1-11, in descending order with the highest developmental level, "Independent reading", given the score 11 and the lowest developmental level, "Labelling and commenting", given the score 1. See Appendix E for sub-category holistic raw scores.

Step 4. Reading attempts classified as partly contextualized and given a raw score of 5 (B1c on the ERAJFS scale) were further classified according to the completeness of the story rendered: complete story and incomplete story. Reading attempts classified as incomplete stories were given a raw score of 4.5. For the purposes of this study, this characteristic was sufficiently discriminating among subjects initially assigned to the sub-category B1c on the ERAJFS scale.

Step 5. After the subjects' reading attempts were assigned to a sub-category, a qualitative analysis of reading behaviors for each subject was carried out. These behaviors were observed and recorded by the researchers during the reading attempts and had been agreed upon beforehand by the researchers. To facilitate the qualitative analysis, occurrences of these behaviors were tallied for each subject. They included:

1. exact word matches: instances where the subject's language matched the exact words of the text
2. self-corrections: instances where the subject corrected his/her speech, usually in order to retrieve the exact text
3. reading or storytelling intonation

4. dialogue carriers: the use of "said" and "says", usually preceding a quotation said with spoken language intonation

5. story markers: the use of "then", "so", "finally", and other words which link events in stories

6. repetitions: repetition of utterances, either single words or phrases

7. metastatements: statements reflecting the subject's thinking about his/her ability to remember, e.g., "I remember this part" and "This is hard."

8. interactive comments: conversational asides to the examiner which are interrogatory or observational, e.g., "What was his name?" and "He's scared now."

Generally, the reading behaviors listed 1-4 are more characteristic of re-enactments which are decontextualized, written language-like attempts, and the reading behaviors listed 5-8 are found more in contextualized, oral language-like attempts.

Assessment and scoring of concepts of print. A week after the storybook reading, the CAPT was administered to each subject individually in a quiet setting outside the classroom, using the protocols described by Clay (1979a). The examiner asked each subject to help her by pointing to specific print features as she read the story, *Sand*. The Scoring Standards Checklist was completed by the examiner during the reading, and a raw score was obtained for each subject. Table 2 shows the subjects' scores. For comparison purposes, the subjects are presented in the same order as listed for the ERAFJS scale.

Insert Table 2 about here.

RESULTS

Relationship between Storybook Reading Behavior and Knowledge about Print of Kindergarten Children

To test the first hypothesis, product-moment correlation (Pearson r) was calculated using the scores assigned to the subjects on the ERAJFS scale and the CAPT. A low, but positive correlation (r=.52) was found, having a significance level less than 2% but greater than 1% (df=19). See Table 2 for a summary of the data.

The results of this study indicated that there was a low, but positive correlation between subjects' scores on two measures of emergent literacy, the ERAJFS scale and the CAPT. This suggests that there is some relationship between a kindergarten child's development in two areas of emergent literacy, storybook reading and concepts about print displayed in a storybook format.

Relationship between Storybook Reading Behavior in Kindergarten and Reading Ability at the End of First Grade

To test the second hypotheses, the product-moment correlation coefficient (Pearson r) was calculated using the subjects' scores on one of the measures of emergent literacy, the ERAJFS scale, and their NCE scores on the Reading subtest of the Metropolitan Achievement Test, 1986, given by the school in the seventh month of the first grade. The MAT was used because it was the standard by which the school district measured student learning. NCE scores were used because they are assumed to be the most valid and reliable of the given scores. Because of

attrition, only data from 11 subjects were available. A medium, but positive correlation was found (r=.57), having a significance level greater than 5% but less than 10% (df=9). The scores were also compared with their basal reading levels at the end of first grade. See Table 3 for a summary of the data.

Insert Table 3 about here.

Relationship between Knowledge about Print in Kindergarten and Reading Ability at the End of First Grade

To test the third hypotheses, the product-moment correlation coefficient (Pearson r) was calculated using the subjects' scores on the other measure of emergent literacy, the CAPT, and their NCE scores on the Reading subtest of the Metropolitan Achievement Test. A low, but positive correlatien was found (r=.48), however, having a significance level greater than 10% (df=9). The scores were also compared with their basal reading levels at the end of first grade. See Table 3 for a summary of the data.

DISCUSSION

Although all correlations were low, the results indicate that there is some relationship between the two measures of emergent literacy, the ERAJFS and the CAPT, and between each of the measures and the subjects' reading ability in first grade as measured by the MAT. The qualitative analysis rather than the quantitative analysis revealed the type of relationships.

For the two measures of emergent literacy, it was found that the more decontextualized and complete a subject's reading attempt, the higher he/she scored on the test of print concepts. A positive relationship appears to exist

between these two aspects of emergent literacy because a child whose reading attempt is more written language-like is probably attending more to the print than a child whose reading attempt is more oral language-like. In addition, as a child attends to the print while re-enacting a story, he/she is learning how speech and print are related and, thus, developing his/her concepts about print. Further, a child who already has some knowledge about print will attend to the print, thus, resulting in more written language-like re-enactments. So it is logical to assume that these two aspects of emergent literacy, storybook reading behavior and concepts of print, could develop concurrently with each contributing to the development of the other.

A qualitative analysis of the language patterns in the transcripts of individual subjects' re-enactments supports the positive relationship between storybook reading and concepts of print in young children. Several trends in language patterns and in concepts of print were identified in the subjects who exhibited similar storybook reading behaviors. This discussion looks at the language patterns in the three general categories of reading attempts: (1) decontextualized (scores 6-7), (2) partly decontextualized (scores 4.5-5), and (3) contextualized (scores 1-4). Reading behaviors noted in the subjects' storybook re-enactments are discussed in light of what they tell us about the subjects' understanding of the reading process.

Decontextualized Reading Attempts: The five highest scoring subjects who were placed in sub-categories assigned scores of 6 and 7, <u>verbatim-like</u> and <u>similar to written text</u> respectively, had many instances of exact word matches in their re-enactments, especially at three key points in the story: (a) "he (Squirrel) still hadn't found her a present", (b) "But as he was putting the stamp on, he had an idea", and (c) "He called his mother on the telephone and

said, "I'm sending you a package with a surprise inside" (Shannon, 1983, see Appendix D). Further, these subjects demonstrated self-corrections seemingly aimed at retrieving exact text and used reading intonation and expressive stress in their re-enactments. Sulzby (1985a) noted that this "memory for text", even when it is almost verbatim and appearing to sound like memorization, is actually "...an intellectually high-level process and not the running off of a rote tape" (p. 470). All but one of these subjects performed above 15 on the CAPT as well. A look at their Scoring Standards Checklist for the CAPT revealed that all subjects performed with nearly 100% accuracy on book-orientation concepts, print-direction concepts, and letter-word concepts (see Appendix B).

Partly Decontextualized Reading Attempts: Subjects placed in the sub-category, created story, written influence, rendered partly decontextualized re-enactments. The primary distinction between these two sub-groups was the relative degree of story completeness for which they were assigned scores of 4.5 and 5. Upon further examination of the transcripts, it was found that the subjects also differed in the degree of decontextualization of their re-enactments. Subjects who were assigned scores of 5 identified the main character by name on the first page of the story, a decontextualized act. Nearly all subjects assigned scores of 4.5 used exophoric speech, referring to the characters with relative pronouns rather than names, a contextualized act. For example, note the qualitative differences in the following excerpts between subjects receiving raw scores of 4.5 and 5:

	Raw Score 5	Raw Score 4.5
p 1:	Squirrel was worried.	I can't remember this part
pp 2-3:	His Mom was only one day away...I mean..His mom's birthday was only one day away.	This is the part...ah um...Mom birthday was um...seventeen, the day of the seventeenth. And he hasn't got a present.

In addition, metastatements were more frequent in the 4.5 category as well as pauses, such as "uh" and "um", which Sulzby (1985a) characterizes as indicative of conversational speech. For example, "I don't remember that...the rest of...um the other part after that. Go on, might's well turn the page", "That's a funny part. I remember this one." It seems that metastatements occurred more often with these subjects' reading attempts because they were attending to the picture to prompt their memory for text. When the picture did not give a direct or immediate clue, reflective thinking took place and was sometimes expressed in metastatements.

The transitional nature of the subjects' reading attempts which received a score of 4.5 and 5 on the ERAJFS scale related to the lack of a predictable correlation with the CAPT. This sub-group's CAPT scores were scattered, ranging from 7 to 18, with the sub-group receiving a score of 4.5 having a greater variability. In addition, all but one of the subjects receiving a score of 5 demonstrated consistent performances on book-orientation concepts, print-direction concepts, and letter-word concepts on the CAPT (see Appendix B). In contrast, only two out of the six subjects receiving a score of 4.5 demonstrated competency with these three concept patterns on the CAPT.

Contextualized Reading Attempts: There was a closer relationship between the scores received on the subjects' reading attempts given scores 1 to 4 and

their scores received on the CAPT. These subjects' re-enactments were highly contextualized, being dependent on the adult and subject both seeing the pictures in the book. More prompts by the examiner were required, as noted in the transcripts. All of the subjects in this group received scores of 14 or less on the CAPT. Examination of the distribution of these subjects' correct responses on the Scoring Standards Checklist for the CAPT showed that the only consistent patterns mastered by the entire group were book-orientation concepts and print-direction concepts. Clay (1979b) also found in her studies that these two patterns were mastered by all new kindergarten entrants. These concepts may be considered a base line expectation for children five years and older. It appears that children are not able to render decontextualized re-enactments without some knowledge of letter-word concepts although other research has found that these concepts are not necessarily a prerequisite to reading ability in the first grade (Day & Day, 1984; Yaden, 1982).

Other reading behaviors of note: Observation of other reading behaviors during storybook re-enactments are worthy of note because they provide insight into children's understanding of the reading process. Four of the 21 subjects first responded to the reading request by silent paging through the book. One subject went through the book a second time before "reading", humming and mumbling under his breath for some of the pages. All of these subjects appeared to scrutinize the book closely during this activity. It is quite likely that these behaviors are an important part of their notions about what reading is. When the examiner asked one subject whether he was reading as he paged through the book, he responded with the statement he was reading "in his mind". In response to the question "What does your teacher do when she reads?" he answered, "She reads and talks." These observations concur with Sulzby's work (1985a)

which notes similar instances of children's metacognitive comments about the reading process. These behaviors, although not described on the ERAJFS scale, aided the researchers in drawing conclusions about the results of this study.

Valuable information about young children's understanding of the reading process was also evidenced in their verbal and non-verbal behaviors during storybook re-enactments. These behaviors, including the subjects' modeling of silent reading, their looking at words while "reading", and their talk during the reading attempts, clearly demonstrated that these subjects have abstracted much about the processes of reading. It is likely that their metalinguistic awareness was developed through interaction with meaningful literacy events, of which storybook reading is the predominant event since these subjects have not had formal instruction in reading.

The relationship between the measures of emergent literacy used in this study and the subjects' reading ability at the end of first grade is less conclusive. The correlations were low but there was some relationship between subjects' storybook reading behaviors and their reading ability in the first grade. Further research with a larger sample would be needed to corroborate this finding. The fact that some subjects learned to read in spite of having lower levels of print concepts and/or reading behaviors and that some subjects with higher levels of print concepts and/or reading behaviors show that other factors contributed to their learning or not learning to read. However, children's storybook reading, as demonstrated by the ERAJFS scale, can still be used to identify students who need additional experiences with pretend-reading and listening to stories read so that they will be ready to learn from formal instruction in first grade.

Upon further analysis of the first grade data, it was found that the subjects who rendered partly decontextualized texts in storybook reading (score of 4.5) varied the most in their reading ability as measured on the MAT. As indicated before, these subjects seemed to be at a transitional stage, and at this stage students may be most unsure of their knowledge and need more experience with storybooks, both listening to stories read to observe reading behaviors and pretend-reading to test their hypotheses. In fact, a follow-up study indicated that these subjects' storybook reading behaviors were not stable even after a treatment providing practice in story re-enactment with the same storybook (see Note 2). Perhaps these are the students that teachers need to become more aware of, making changes in their curriculum to meet their specific needs. In addition, further analysis revealed that subjects whose reading attempts were contextualized or whose concepts of print scores were below 15 generally had lower MAT scores. Thus, although the measures cannot be used to predict future reading ability, they can be used to identify students who need more experience with storybooks while in kindergarten.

It should also be noted that all subjects were reading basals at the first grade level, indicating that subjects who did poorly on the MAT could read successfully with teacher support, in much the same way that parents provide "scaffolding" during storybook reading (Snow, 1983). The MAT measures student performance without such scaffolding and does not represent the type of reading that students normally do whereas the level of basal that students are reading does not necessarily represent what students are able to read on their own. Whether intervention in kindergarten for readers who have lower levels of print concepts and storybook reading behavior can create successful readers in first grade would be an interesting area to research. In addition, it remains to be

seen whether specific levels of storybook reading behavior and print concepts are necessary for success in learning to read at "the first grade level". But these questions may be precluded by newer approaches to teaching reading (e.g., whole language, literature, etc.) which allow for more variation in rates of learning and, consequently, invalidate standardized test scores which are based on teacher, parent, and administrator expectations for uniformity at each grade level. It may be some time before difference is accepted as the norm.

Limitations

There are two major limitations of this study. The first concerns the generalizability of the findings, and the second concerns the use of the two measures of emergent literacy.

The small sample size ($n = 21$ and $n = 11$) and the homogeneous nature of the population (a rural community with predominantly middle class white families) limit the generalizability of the findings. However, the results provide an additional source of information regarding kindergarten children's emergent literacy and metalinguistic awareness and along with other samples gives a broad picture of what kindergarten children know about the reading process. Research into young children's emergent literacy has tried to maintain ecological validity so that the results are generalizable to what children actually know in familiar and natural environments (Teale & Sulzby, 1986). To determine generalizability across populations, additional research should sample communities having other socioeconomic strata, cultural backgrounds, and geographic locations.

Both the ERAJFS scale and the CAPT provide a means to observe children's notions about the reading process and their concepts about print. However, there

were limitations in the use of the instruments for determining children's developmental levels of emergent literacy.

The ERAJFS scale was based on theoretical assumptions of emergent literacy and was developed from action research with small samples of preschool and kindergarten children. The aim of the ERAJFS scale is to describe developmental trends in young children's literacy acquisition, not to provide a refined measurement instrument. Sulzby (1985a) noted that while theoretical considerations led to the specification of some of the sub-categories in the ERAJFS scale, others came from observation. She also suggested that further research needs to be conducted to probe the nature of the classification scheme, especially in regard to what sort of ordering is appropriate. In addition, the researchers in this study concur with Sulzby in her observation that making judgments about where to place subjects' reading attempts were often difficult. This is particularly true because placement requires one judgment for the entire reading attempt which involves multiple behaviors, and not all children assigned to the same level exhibit identical reading behaviors.

Use of CAPT also presented some difficulties in administration and interpretation. The researchers found that in the testing session more than a few subjects assumed a passive role as the book, *Sand*, was read. It was suggested by Johns (1980) that the protocols for administering the test did not set up the tasks in a manner that actively engaged the subjects' visual attention. In addition, although the test does sample many concepts about print, there is sometimes only one test item for some concepts, which raises questions of reliability.

Further, several test items on the CAPT, those which look at letter-word concepts, are difficult to interpret. Protocols required the examiner to ask the

subject to identify first and last letters in a word. The page upon which these letters were to be identified contained a one-line sentence of ten words, which the examiner read to the subject. Several subjects pointed to the first letter in the first word of the sentence and the last letter in the last word in the sentence. Although correct, the ambiguity of this response caused the examiner to question whether all the subjects who responded in this manner actually knew the concept tested. In addition, phrased as such, "Show me the first (last) letter in a word", required the subject to hold several variables in mind, first (last), letter, and word. This can be a difficult task for a pre-operational thinker, a characteristic of most five and six year olds.

Despite the limitations of the ERAJFS scale and the CAPT, these instruments were selected because they both provided data which characterized young children's emergent reading abilities within a natural and familiar literacy event, storybook reading, and because they both examined aspects of emergent literacy that this study sought to relate to reading ability in first grade. The CAPT has since been found to have predictive validity, especially for high-risk children (see Harlin & Lipa, 1990).

CONCLUSIONS

The measures of emergent literacy employed in this study yielded valuable information concerning the relationship between kindergarten children's notions of the reading process and their conceptual knowledge of print and the relationship of these aspects of emergent literacy with first grade reading ability. Several conclusions can be drawn from the results of this study:

1. Knowledge of print concepts may be learned by kindergarten children in their interactions with storybooks.

2. Knowledge of print concepts does not necessarily lead to the acquisition of storybook reading behavior in kindergarten children.

3. Storybook reading behavior may indicate when a student is ready to receive formal reading instruction.

4. Storybook reading behavior can be used as an indicator of which children need more experiences with storybooks.

The results suggest that knowledge of print concepts may be learned when children interact with storybooks as evidenced by the quantitative and qualitative data. It was found that a subject's developmental stage in storybook reading was related to her/her knowledge of print concepts displayed in storybook format. The more a reading attempt was decontextualized and similar to the original text the greater his/her knowledge of print concepts. This is supported by other researchers, such as Sulzby (1983) and Clay (1979b). According to Sulzby, through their re-enactments of favorite storybooks, children demonstrate what they have abstracted about the forms and functions of written language as they model the reading process. Clay asserted that a child's correct orientation to print comes from recurring contact with written language.

When children participate in the interactive storybook reading experience, they have access to the language of the story while observing the print. Through interaction with the adult, they can attend to the features of print, answering questions, making comments and asking questions about the story and the print. In addition, reading behaviors, including page turning, intonation, self-correction, etc., are modeled for them by the fluent reader. Storybook re-enactments provide children with the opportunity to imitate, or try out, the reading behaviors that have been modeled for them during storybook reading and to test their hypotheses about print. It is through their re-enactments that we

can observe what children have abstracted while listening to stories read to them.

Further, storybook re-enactments require a coordination of behaviors which increase in complexity and stability the more a child moves toward independent reading. The child must imitate a fluent reading voice, draw on context clues, such as pictures and print, recall the text heard previously, and re-create syntactic and semantic structures which are characteristic of book language and stories (Putnam, 1981). These behaviors were found in this study to occur intermittently at all stages of development as characterized on the ERAJFS scale, but they become more stable and integrated as the subjects approached the level of independent reading.

In addition, the results suggest that knowledge of print concepts does not necessarily lead to the acquisition of storybook reading behaviors in kindergarten children. These two aspects of emergent literacy appear to have developed concurrently through experiences with storybooks for only some of the subjects in the study. Subjects who demonstrated more decontextualized storybook reading (scores 5-7) also demonstrated a good understanding of letter-word concepts and some of the advance-print concepts on the CAPT. However, subjects whose re-enactments were more contextualized (scores 1-4.5) as a group had more erratic understanding of these concepts. These subjects may have some knowledge of the concepts, but they have not synchronized them with storybook reading behaviors.

IMPLICATIONS

Based on the results of this study, the following implications for instruction are suggested:

1. Providing young children experiences with written language in meaningful contexts, such as pretend reading with familiar storybooks, is an effective way to enhance young children's emergent literacy, especially their notions of the reading process and concepts of print.

2. Children's notions of the reading process and conceptual knowledge of print can be determined through informal measures of emergent literacy which make use of a natural, familiar literacy event, storybook reading, such as the ERAJFS scale of storybook re-enactments and Concepts About Print Test.

3. Some kindergarten children need more experiences with pretend-reading and listening to stories read before they can successfully learn to read in first grade.

The results of this study and other studies have shown that experience with written language in meaningful contexts enhances emergent literacy and metalinguistic awareness. Through the interactive experience children receive the kind of scaffolding, i.e., clues to meaning, displays of reading behavior, schema for story structure, etc., that they need to support their eventual independent reading (Sulzby (1985a). What has been experienced intratextually, can then become intertextual (Rowe, 1987). To provide kindergarten children with this type of experience, teachers can model reading behaviors through the use of big books and provide children with books with predictable language for them to re-enact. In addition, teachers can share the reading of storybooks with the children, as in Holdaway's (1979) "shared book experience", giving them the opportunity to take over the reading as they are ready.

The results of the study imply that what children know and can display about written language and the reading process are revealed in their re-enactments of favorite and familiar storybooks. Thus, young children's storybook re-enactments provide teachers with insight into and assessment of their emergent reading abilities. This knowledge helps teachers meet the needs of individual students so that they are able to initiate formal reading instruction at the appropriate time. For example, children who render completely decontextualized reading attempts and have an understanding of most print concepts, including some advanced-print concepts, need little scaffolding and modeling and also may be ready to profit from formal reading instruction. Children who render partly decontextualized reading attempts and have acquired most letter-word concepts and no advanced-print concepts require continued modeling of the reading process. They would benefit most from teacher modeling with big books, pair reading with peers who are at a more developmentally advanced stage, and opportunities for re-enactment of books with predictable language. Those children who render completely contextualized reading attempts and have print concepts limited to book orientation require considerable experiences listening to books read by adults, especially on a one-to-one basis, where the reading process is modeled and specific print concepts and reading behaviors, such as direction and line-by-line sweeping, are pointed out to them.

Young children's literacy development begins long before formal instruction. Much of that development is fostered through socially mediated experiences with storybook reading and other meaningful interactions with print in their environment. This study found that there is a relationship between two aspects of children's emergent literacy, their storybook reading behaviors and their concepts of print. As children's reading behaviors became

decontextualized, i.e., more written-language like, they also showed greater understanding of print concepts. However, knowledge of print concepts did not necessarily correlate with written language-like reading attempts. This suggests that the scaffolding and modeling children receive while listening to stories promotes use of children's metalinguistic awareness and develops their notions of the reading process but that print concepts acquired through other experiences does not develop children's notions of the reading process. In addition, children's level of emergent literacy, especially storybook reading behavior, was somewhat correlated with their later reading ability. More importantly, informal measures of emergent literacy can be used by teachers to identify children who need more experiences with storybook reading to prepare them for formal reading instruction.

NOTES

1. The term "story re-enactment" has been used in early childhood education to refer to dramatic play where young children role-play characters in a story (Ishee & Goldhaver, 1990). It should not be confused with the use of the term in this study and other studies of emerging reading behaviors. Dramatic play has, however, also been found to contribute to young children's literacy development (Galda, 1982, 1984).

2. A follow-up study was carried out by one of the researchers to determine if a treatment giving practice in story re-enactment would have an effect on the subjects' storybook reading behaviors. The treatment consisted of playing with a storybox (Peterson, 1982) made up of the storybook and toys representing the characters and objects in the story. Although the toys could be used in any manner, the subjects re-enacted the story, verbalizing the story while manipulating the toys in appropriate fashion. In addition, the subjects referred to the book while "dramatizing" the story. The difference between the control and the experimental groups was not significant, but it does demonstrate that storybook reading behavior is not stable even with the same storybook. Some subjects performed at a higher level, some did not, and some performed at a lower level. This was true for both the control and experimental groups. While the changes in levels were minimal for most subjects (range of -0.5 to 1), four subjects performed one and one-half to three levels higher, regardless of treatment or no treatment. It could be that these subjects were on the verge of acquiring new concepts and only needed a few experiences with pretend-reading and/or storybook reading by the teacher to display their new knowledge of reading behavior. Thus, it appears that acquisition of reading behaviors does not occur in a smooth, regular sequence, and varies from student to student in how it is

acquired. See Otto's study (1983) for another description of four subjects' progression of reading behaviors over a period of 8 months and Kamberelis and Sulzby's study (1988) for a discussion of children's transitional knowledge.

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APPENDIX A

Emergent Reading Ability Judgements for Favorite Storybooks (ERAJFS)
Abridged Version (Sulzby, 1983; Sulzby and Otto, 1982)

A. ATTEMPTS WHICH ARE GOVERNED BY PRINT

1. Holistic attempts. Here the child creates a version almost exactly like the written version.

   (a) Independent reading. The child is actually reading the print independently, using comprehension, letter-sound knowledge, and known words in a co-ordinated fashion in re-creating the text. Miscues made show all aspects of independent reading.

   (b) Strategy-dependent. Here the child seems to be reading independently by creating a print-governed version of the text, but shows definite strategies keyed to the "aspectual" nature of reading attempts. Thus, the child's reading process does not seem to be fully "balanced" or integrated.

2. Aspectual attempts. In this category, the child focuses upon one or two aspects of reading. The following examples highlight each aspect separately; however, the child may show different combinations of behavior. The descriptions that follow do not imply order of acquisition.

   --- LETTER/SOUND ASPECT. The child may treat reading as a sounding out process and may laboriously try to sound-out words with varying degrees of success.
   --- KNOWN WORD ASPECT. The child will go through meaningful text, reading only words that s/he knows.
   --- COMPREHENSION ASPECT. Comprehension here is "memory for text", rather than anticipated meaning. The child recites the text almost verbatim and clearly indicates that it is print that is read. Actual tracking of the print seems to interfere with memory for text and the wording deteriorates.

3. Print-governed refusal. Here the child refuses to read and refuses to "pretend-read," insisting that print is what gets read and s/he cannot read.

B. ATTEMPTS WHICH ARE GOVERNED BY PICTURES AND STORIES ARE FORMED

1. Written language-like attempts

(a) Verbatim-like attempts. Child recites story that is close to verbatim and uses written language phrases when departing from verbatim. Child uses self-correction behaviors as if attempting to retrieve wording of original. (Judgment of attempt is made by child's inferred intention, not accuracy.)

(b) Similar to written text. Child renders story that is similar to the original but not close to verbatim. Child creates patterns that are written language-like but not contained in the original. Child "reads" with "reading intonation" much of the time and the wording is like written language. The story created is a decontextualized, coherent whole.

(c) Created story, written influence. Child renders story that is primarily but not entirely decontextualized. The wording and intonation may be mixture of oral language-like and written language-like speech. Story may depart from actual text in actual content or in match of content to pages.

2. Oral language-like attempts

(a) Story told for an audience. Child tells the story from the pictures as if for an audience. The story forms a coherent whole and the child's intonation sounds like storytelling rather than reading. Sentence syntax and phrasing sound like speech, with a high degree of contextualization.

(b) Disconnected oral dramatic dialogue and/or interactive conversational comments. The overall attempt is disconnected but a story-like sequence can be inferred. The child may create dialogue to go along with the pictures, often depending upon "voices" for characters. Child may give sentential comments that sound interactive rather than narrative. Mixture of present, present progressive, and past tenses add to judgement that attempt is disjointed in contrast with 2a which is coherent.

C. ATTEMPTS WHICH ARE GOVERNED BY PICTURES BUT STORIES ARE NOT FORMED

1. Action-governed attempts. The child's comments sound as if s/he thinks the action in the picture is almost taking place here-and-now. Verb forms are usually present progressive; future sounding statements, like "he's gonna catch him", can be inferred from the picture being examined. At times, the comments and the child's pointing almost seem to be comments to self instead of to an audience; at other times, the child directs the adult with comments like, "Lookit. He's running." The child may skip parts of the book or re-cycle in varying orders.

2. Labelling and commenting attempts. The child comments on on pictures to adult, naming items or parts or commenting on parts for the adult, e.g., "This is X", "Doggie", "Brush him teefs," etc. No coherent story formed. Very young children skip many parts of the book and/or re-cycle in varying orders.

APPENDIX B

FOUR PATTERNS OF PRINT CONCEPTS MEASURED BY THE SAND TEST (Johns, 1980, p. 538)

Pattern 1: Book-orientation concepts

Item 1. Orientation of book: Child identifies front of book.
2. Print, not picture carries message: Child points to print.
11. Left before right: Child recognizes that left page is read before right page.

Pattern 2: Print-direction concepts

Item 3. Directional rule: Child points to top left line of print.
4. Directional rule: Child shows that print goes left to right.
5. Directional rule: Child shows return sweep.
6. Word by word pointing: Child points to each word as it is read.
7. First and last: Child points to the first and last part of text.
9. Inversion of print: Child shows how an inverted sentence should be read.

Pattern 3: Letter-word concepts

Item 8. Inversion of picture: Child points to the bottom of upside-down picture.
19. Capital/lower case correspondence: Child is shown M and H and locates m and h.
21. Letter: Child shows one and two letters.
22. Word: Child shows one and two words.
23. First and last letter: Child identifies first and last letter in a word.
24. Capital letter: Child points to a capital letter.

Pattern 4: Advanced-print concepts

Item 10. Line sequence: Child recognizes that bottom line is read before top line.
12. Word sequence: Child recognizes that word sequence is incorrect ("I sat the in hole...") when sentence is read as if it were correct.
13. Letter order: Child recognizes that word sequence is incorrect ("I sat ni eth hole.") when sentence is read as if it were correct.
14. Reordering letters: Child recognizes the letter that is incorrect ("Shall I mkae a hlil..") when sentence is read as if it were correct.
15. Question mark: Child names or explains the function.
16. Period: Child names or explains the function.
17. Comma: Child names or explains the function.
18. Quotation marks: Child names or explains the function.
20. Reversible words: Child points to "was" (not "saw") and "no" (not "on") upon request.

APPENDIX C

SCORING STANDARDS CHECKLIST for Concepts About Print Test: Sand (Clay, 1979)

NAME: _____

DATE: _____

SCORING STANDARDS

Item		Score
1	Front of book	
2	Print (not picture).	
3	Points top left at 'I took...'	
4	Moves finger left to right on any line	
5	Moves finger from the right-hand end of a higher line to the left-hand end of the next lower line, or moves down the page.	
6	Word by word matching	
7	Both concepts must be correct, but may be demonstrated on the whole text or on a line, word or letter	
8	Verbal explanation, or pointing to top of page, or turning the book around and pointing appropriately	
9	Score for beginning with 'The' and moving right to left across the lower line and then the upper line, OR, turning the book around and moving left to right in the conventional movement pattern	
10	Any explanation which implies that line order is altered	
11	Says or shows that a left page precedes a right page	
12	Notices at least one change or word order	
13	Notices at least one change in letter order	
14	Notices at least one change in letter order	
15	Says "Question mark" or "A question" or "Asks something"	
16	Says "Full stop", "Period", or "It tells you when you've said enough" or "it's the end"	
17	Says "A little stop", or "A rest" or "A comma"	
18	Says "That's someone talking", "Talking", "Speech marks", "Print"	
19	Locates two capital and lower case pairs	
20	Points correctly to both 'was' and 'no'	
21	Locates one letter and two letters on request	
22	Locates one word and two words on request	
23	Locates both a first and a last letter	
24	Locates one capital letter	

Table 1. Results of Emergent Reading Ability Judgments for Favorite Storybooks (ERAJFS)

Subject	Initial Criteria	Holistic Score	Sub-Category Criteria
B-11*	decontextualized	7	verbatim-like attempts
B-7	decontextualized	6	similar to written text
B-3		6	
B-9		6	
A-1		6	
A-2.2	partly	5	created story,
B-4	decontextualized;	5	written influence
B-2.2	complete story	5	
B-6		5	
B-2.4	partly	4.5	created story,
B-2.1	decontextualized;	4.5	written influence
A-6	incomplete story	4.5	
A-3		4.5	
A-2		4.5	
A-4		4.5	
B-10	contextualized	4	story told for an
A-7		4	audience
A-5		4	
A-2.1		4	
B-8	contextualized	3	disconnected oral dramatic dialogue
B-1	contextualized	1	labelling, commenting

*Designates location of subject's re-enactment on audiotape.

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Table 2. Results from Emergent Reading Ability Judgments for Favorite Storybooks (ERAJFS) and Concepts of Print Test (CAPT)

Subject	ERAJFS	CAPT
B-11*	7	21
B-7	6	15
B-3	6	17
B-9	6	16
A-1	6	13
A-2.2	5	12
B-4	5	17
B-2.2	5	9
B-6	5	17
B-2.4	4.5	14
B-2.1	4.5	18
A-6	4.5	7
A-3	4.5	8
A-2	4.5	10
A-4	4.5	15
B-10	4	11
A-7	4	12
A-5	4	14
A-2.1	4	13
B-8	3	5
B-1	1	12

* Designates location of subject's re-enactment on audiotape

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Table 3. Summary of the Data for All Measures and Basal Reading Level

Subject	ERAJFS	CAPT	MAT	BASAL
B-11*	7	21	99.0	1-1**
B-7	6	15	99.0	1-3
B-3	6	17		
B-9	6	16	99.0	1-3
A-1	6	13	99.0	1-3
A-2.2	5	12		
B-4	5	17	99.0	1-1
B-2.2	5	9		
B-6	5	17		
B-2.4	4.5	14		
B-2.1	4.5	18		
A-6	4.5	7	51.1	1-1
A-3	4.5	8	99.0	1-1
A-2	4.5	10		
A-4	4.5	15	60.4	1-1
B-10	4	11	74.9	1-1
A-7	4	12	84.6	1-3
A-5	4	14	84.6	1-3
A-2.1	4	13		
B-8	3	5		
B-1	1	12		

* Designates location of subject's re-enactment on audiotape

** 1-1 designates beginning unit of first grade reader; 1-3 designates third unit of first grade reader

ERAJFS = Emergent Reading Ability Judgments for Favorite Storybooks
CAPT = Concepts of Print Test
MAT = Metropolitan Achievement Test
BASAL = Houghton Mifflin Basal Reading Series